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IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Applicant : Atsushi MAKI *et al.*
Serial No. : 09/900,144
Filed : 9 July 2000
For : OPTICAL SYSTEM FOR MEASURING
METABOLISM IN A BODY AND IMAGING METHOD
Art Unit : 3737
Examiner : E.M. Mercader
Conf. No. : 6500

RESPONSE AFTER FINAL REJECTION

Mail Stop AF
Commissioner for Patents
POB 1450
Alexandria, Virginia 22313-1450

17 August 2004

Sir:

In response to the final Office Action having a USPTO mailing date of 17 May 2004 in connection with the above-identified application, Applicant respectfully submits the following.

NUMEROUS ERRORS DURING PROSECUTION

The undersigned respectfully draws attention to numerous errors on a part of the Examiner during prosecution to-date. The large number of errors, and/or the continuation of some errors, prompted this notation. Some such errors are detailed in Applicant's Request For Corrected Action/Restart filed 18 December 2003, and also in the Statement of Substance/§1.181 Petition filed 26 March 2004, and any reader should respectfully review such documents.

As a further error, the Examiner declined the requested Corrected Action when the Examiner had no discretion to do so. More particularly, MPEP §710.06 states in relevant part *verbatim*, “[w]here the citation of a reference is incorrect or an Office action contains **some other defect** and this error is called to the attention of the Office within 1 month of the mail date of the action, the Office will restart the previously set period for reply to run from the date the error is corrected, if requested to do so by applicant” (underline/bold emphasis added). There was error (i.e., Applicant's Preliminary Amendment had not been considered; Applicant's §119 priority claim was not acknowledged; Applicant's request for interview had been ignored, etc.), and Applicant had met the one month request requirement, and hence, the Examiner had no discretion. Yet, at the end of the shortened statutory period for response (i.e., three months), the Examiner declined to issue a new Action, whereupon Applicant (being out of time) was forced the time/expense of filing a bona fide Response to the original erroneous Office Action.

As another error, Applicant's Statement of Substance and Petition Under 37 CFR §1.181 filed 26 March 2004 still has neither been acted upon nor acknowledged. That is, there is no clear acknowledgement of the same in the most recent 17 May 2004 Office Action.

Still further, page 2 of the most recent 17 May 2004 final Office Action states, “Applicant's arguments filed on 3/3/2004 have been fully considered,” which is confusing to say the least, since Applicant never submitted any arguments on 03 March 2004. The comments following the quoted statement do not appear to be related to Applicant's 26 March Statement of Substance; perhaps the quoted

statement is related to Applicant's 09 July 2001 Preliminary Amendment and/or
18 December 2003 Request for Corrected Office Action?

In addition, there has been and continues to be prosecution errors regarding
alleged double-patenting rejections, as discussed hereinbelow.

THIRD REQUEST FOR EXAMINER INTERVIEW

The Undersigned respectfully makes note of the following prior written
requests for an Examiner Interview:

First Request: Page 10 of Preliminary Amendment filed 09 July 2001
Second Request: Page 2 of Response filed 24 February 2004

In the 17 May 2004 Office Action at page 2, the Examiner expressed an
opinion that she thought Applicant's Preliminary Amendment request was only a
discretionary "invitation." It appears that the Examiner's opinion is based more on
the Preliminary Amendment's page 12 "Examiner Invited to Telephone" (for minor
Examiner's Amendments) section rather than the Preliminary Amendment's page 10
"Examiner Interview and Supplemental Preliminary Amendment" section which
explicitly requests an Examiner Interview.

In any event, Applicant and the Undersigned now respectfully renew such
request for Examiner Interview. Further, in view of the numerous and continuing
errors within the application, Applicant and the Undersigned respectfully request
attendance of the Examiner's SPE at the Examiner Interview. In view of the
numerous unsuccessful attempts at an Examiner Interview, it is respectfully
submitted that any declining of Examiner Interview at this point (*i.e.*, third written

request) will be discussed with persons of a higher supervisory role to the Examiner (e.g., the SPE and/or Group Director, etc.)

In the event that the present paper, in and of itself, is sufficient to place the application in condition for allowance, no Examiner Interview would be necessary.

DOUBLE PATENTING REJECTION - TRAVERSED/NOT SUPPORTED

The continuing non-statutory double patenting rejections at Items 2-5 on pages 3-4 of the 17 May final Action again are respectfully traversed because such rejections do not provide any factual analysis whatsoever, let alone the factual analysis required for such rejections under US patent law, *i.e.*, the Examiner has not satisfied even any initial burden to support the rejections, let alone adequately support such rejections.

In the 17 May 2004 final Action (page 2, first paragraph), and in the 27 February 2004 Interview Summary communication, the Examiner comments, "With respect to the double patenting rejections, there are of the obviousness-type without another reference, which means that the claims are anticipated and hence no obviousness explanation is required." Strong traversal is appropriate for several reasons.

First, if this application's claims "anticipated" (*i.e.*, exactly matched) the prior patented claims, a "statutory" (not a non-statutory obviousness-type) double-patenting rejection would be appropriate. However, it is respectfully noted that this application's claims DO NOT match the applied '698, '763, 438 or '556 patented claims because, at minimum, none of the '698, '763, 438 or '556 patented

claims contain the "logarithmic difference signal" features/limitations of this application's claims. Hence, a "statutory" (not a non-statutory obviousness-type) double-patenting rejection would be appropriate. It is respectfully noted that the Examiner applied "obviousness-type double patenting" rejections.

It is not known how the Examiner started with "obviousness-type" double patenting rejections, and then suddenly made an illogical leap to "anticipation-type" double patenting rejections. Just because only a single reference is applied does not make a rejection an "anticipation" rejection; that is, "obviousness-type" rejections (e.g., §103 rejections) also may be based upon a single reference.

Second, Applicant and the Undersigned are unaware of any statutory or MPEP provision concerning double-patenting which authorizes the USPTO or an Examiner to designate that double-patenting claims "are anticipated and hence no obviousness explanation is required," as the Examiner has done (numerous times). In contrast, MPEP §804 explicitly states:

Since the analysis employed in an obviousness-type double patenting determination parallels the guidelines for a 35 USC 103(a) rejection, the factual inquiries set forth in Graham v. John Deere Co., 383 US 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 USC 103 are employed when making an obviousness-type double patenting analysis. These factual inquiries are summarized as follows:

- (A) Determine the scope and content of a patent claim and the prior art relative to a claim in the application at issue;
- (B) Determine the differences between the scope and content of the patent claim and the prior art as determined in (A) and the claim in the application at issue;
- (C) Determine the level of ordinary skill in the pertinent art; and
- (D) Evaluate any objective indicia of non-obviousness.

Any obviousness-type double patenting rejection should make clear:

(A) The differences between the invention defined by the conflicting claims - a claim in the patent compared to a claim in the application; and

(B) The reasons why a person of ordinary skill in the art would conclude that the invention defined in the claim in issue is an obvious variation of the invention defined in a claim in the patent.

The rejections do not make clear any differences whatsoever, or any reasons whatsoever, let alone the differences and reasons required by such rejections, as to why a person of ordinary skill in the art would conclude that the invention defined in the claims at issue is an obvious variation of the invention defined in the claims in the patent. It is readily apparent from repeated "rubber-stamped" comments throughout the double-patenting rejections that the Examiner has not performed/supplied the requisite analysis/reasoning.

More particularly, every one of the double-patenting rejections are rejected over ALL THE CLAIMS of each of the applied patents (*i.e.*, there is no selectivity), and every one of the double-patenting rejections commonly states "Although the conflicting claims are not identical, they are not patentably distinct from each other because they represent alternate variations and groupings." Applicant's present application claims, at minimum, contain "logarithmic difference signal" features/limitations, whereas none of the '698, '763, 438 or '556 patented claims contain any "logarithmic difference signal" features/limitations of this application's claims. Accordingly, it is not known how Applicant's present application claims can be characterized as "alternate variations and groupings" of the patented claims. For example, while a mainstay of the present application claims are directed toward

"system" claims, many of the applied '698, '763, 438 or '556 patented claims are "method" claims.

In short, the Examiner's double-patenting comments/reasoning to-date have been vague (at best) and/or non-existent. Accordingly, Applicant respectfully requests the Examiner to satisfy her initial burden to support the rejections in accordance with the requirements of MPEP §804, or withdraw such rejections.

In addition to the foregoing, the following additional remarks from Applicant's foreign representative also are submitted in support of traversal of the rejections and patentability of Applicant's claims.

An important object of the present invention (claimed in the present application) is to resolve a problem described on page 5 of the specification, that is, to say, it is to discriminate any change in hemodynamic movement due to an overall change in the living body from a hemodynamic change in the living body due to a local change in the living body. Moreover, as illustrated in FIG. 15 and described in the present specification, in order to obtain difference signals which reflect only a change in hemodynamic movement at the local region 215, the light is irradiated on a subject 206 by way of a light irradiation position 205. Two signals are detected by two photodetectors 210a and 210b, and a logarithmic difference signal between the two signals is obtained. That is, "a logarithmic difference signal" between detection signals for the respective sets is used as a measured signal" (refer to the last three lines of claim 28), whereby, a signal resulting from an overall change in hemodynamic movement is removed to extract only a change in the hemodynamic movement at the local region.

USP 6,262,438 is the parent of this application. The reference has the feature that measured results are simply displayed on a display screen by a display control unit (refer to Claim 1). However, the reference does not define the features of the present invention that the logarithmic difference signal is used as a measured signal.

USP 5,678,556 defines to display spatial distributions by using averaged photon-path or the like, but the reference does not disclose the feature of the present invention that the logarithmic difference signal is used as the measured signal.

USP 6,611,698 discloses to generate a detection signal for each of the light applied positions, but the reference is different from the present invention having the feature that the logarithmic difference signal is used as the measured signal.

USP 6,542,763 defines that graphic elements changes according to a state of a detection signal in claim 1, but such reference is different from the present invention having the feature that the logarithmic difference signal is used as the measured signal.

As a result of the foregoing, Applicant respectfully submits that the cited art has not been shown to support any of the double patenting rejections made, and therefore, reconsideration and withdrawal of all of the double patenting rejections are respectfully requested.

Further, at this point, it is respectfully submitted as a reminder that, if new art is now cited against any of Applicant's unamended claims, then it would not be proper to make a next Action final.

RESERVATION OF RIGHTS

It is respectfully submitted that any and all claim amendments and/or cancellations submitted within this paper and throughout prosecution of the present application are without prejudice or disclaimer of any scope or subject matter. Further, Applicant respectfully reserves all rights to file subsequent related application(s) (including reissue applications) directed to any/all previously claimed limitations/features which have been subsequently amended or cancelled, or to any/all limitations/features not yet claimed, *i.e.*, Applicant continues (indefinitely) to maintain no intention or desire to dedicate or surrender any limitations/features of subject matter of the present application to the public.

EXAMINER INVITED TO TELEPHONE

Regarding minor amendments outside of the requested Examiner Interview, the Examiner is invited to telephone the undersigned at the local D.C. area number 703-312-6600, to discuss an Examiner's Amendment or other suggested action for accelerating prosecution and moving the present application to allowance.

CONCLUSION

In view of the foregoing remarks, Applicant respectfully submits that the claims listed above as presently being under consideration in the application are in condition for allowance. Accordingly, early allowance of such claims is respectfully requested.

This Response is being submitted within the shortened statutory period set by the 17 May 2004 final Office Action, and therefore, no Petition or fee are required. To whatever other extent is actually appropriate and necessary, Applicant respectfully petitions the Commissioner for an extension of time under 37 CFR §1.136. Please charge any actual required shortage in the fees to ATS&K Deposit Account No. 01-2135 (referencing Case No. 500.34077CC3).

Respectfully submitted,



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